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Caucasian, Iranian and Urartian Bronze Bells

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Abstract

This paper presents a review of metal "bells", a category of metal object often found in Iron Age archaeological contexts of Caucasian, north Iranian and Urartian cultures. Each cultural sphere is considered separately, focusing on material brought to light during archaeological excavations. An analysis of these three different traditions allows comparison of these artifacts in order to detect evidence of contacts and reciprocal influences between these cultural regions, which strongly interacted during the first half of the Iron Age.

Keywords

metal bells – Iron Age – Urartu – Caucasia – Iran

Metal bells have often been found in archaeological contexts in the mountainous highlands of Caucasia, western Iran and Urartu, both in graves and within inhabited settlements.

Many typological variants may be noted, which differ essentially with regard to the shape of the body and the existence of openings. The possible presence of a clapper is a determining factor, since it allows us to conclude with certainty that the object was indeed a bell, whereas in cases where it is not preserved the object might merely have been a bell-shaped pendant.

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The contents of this paper are the work of both authors. Specifically, M. Castelluccia wrote the part concerning Caucasian bells while R. Dan dealt with Iranian and Urartian items. Introduction and conclusions were jointly written.

The metal bells can be divided into two main categories: the first is represented by the so-called “open-cage”, “bird-cage” or “rattle” bells. They are small and globular, with a series of parallel vertical slits from top to bottom; shapes vary and a small metal or stone ball with the function of clapper is usually still present inside (Fig. 1). They are mostly small, generally just a couple of cm in height, and roughly round in shape with a series of elongated openings on the body, while the upper part finishes in a ring, through which passed a chain.

The second group consists of the “closed” type bells. They are conical or polygonal in shape with an opening at the bottom and an iron clapper inside. In some cases one or more slits may be present on the body (Fig. 2).

It is believed that these bronze bells were mostly attached to horse harnesses; in fact they are shown in some Neoassyrian orthostates, fixed to the harness under the jaw or on the horse’s neck (Fig. 3). Their use, however, could not have been confined only to this field, since these bells – often highly standardized in form – were extremely widespread.

Metal bells have been found in large numbers in various Neoassyrian sites, but most of them come from Nimrud – especially from the Northwest Palace, where Layard discovered a cauldron containing eighty bells,¹ and from Fort Shalmaneser.² Assyrian-style bells, unlike those from Iranian contexts, belong to the “closed” type, open at the bottom and with visible clapper.³

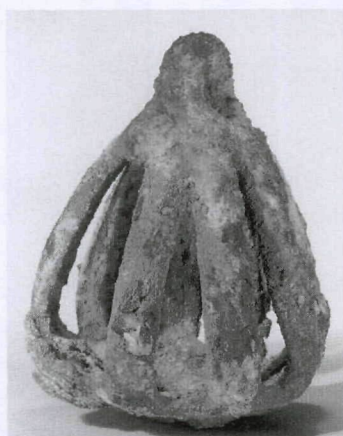


FIGURE 1 “Open-cage” bell from Hasanlu (after www.metmuseum.org)

1 Engel 1864, 150.

2 These bells are in the British Museum (<http://www.britishmuseum.org/>, Access November 2012).

3 Winter 1980, 4, 55, fig. 14.

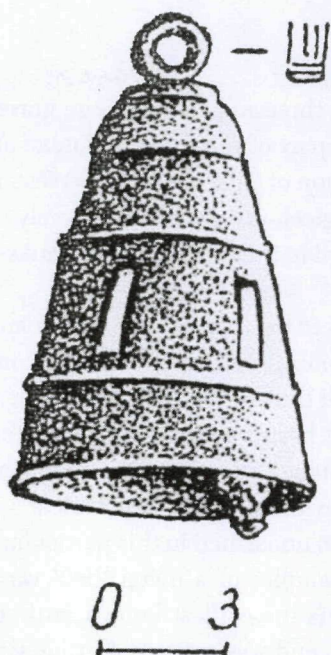


FIGURE 2 "Closed-type" bell from Yerevan (after Есаян et alii 1995, pl. 7. 14)



FIGURE 3 Assyrian relief depicting horse harness with bells attached (after Winter 1980, 55, fig. 14)

Iranian Bells

Over the past centuries thousands of Iron Age graves have been unearthed throughout the western part of the Iranian plateau and towards the Caspian Sea, especially in the region of Gilan, by various Western, Japanese and Iranian expeditions. Archaeological investigations, largely suspended due to the Revolution, have resumed in the past decades, thanks especially to the activity of local scholars.

This fieldwork has led to the discovery of a huge amount of bronze objects, mostly from funerary contexts. Settlements, on the contrary, have not been sufficiently investigated and thus there is a lack of clear stratigraphic sequences. Around the Urmia Lake basin, however, several sites have been intensively excavated, such as Hasanlu, Kodlar Tepe, Bastam, Haftavan Tepe, just to cite the most important, providing clear chronological sequences – but very few burial-grounds have been unearthed in this particular area.

One of the oldest examples of a metal “bell” was found in the necropolis of Tepe Giyan.⁴ This is the earliest known rattle bell in Iran.⁵ It is of the “open-cage” type (Fig. 4) and was recovered inside Grave 105, which unfortunately is not described in detail, and is dated to the first half of the 2nd millennium BCE.

Other similar examples were also recovered from the cemetery of Tepe Sialk B (Fig. 5), but once again the circumstances are not reported in detail. Thus we do not know whether or not these bells were associated with horse-trappings as Ghirshman thought.⁶

Numerous metal bells came from the Marlik burial-ground, in the region of Gilan (Fig. 6). According to the excavator, they can be divided into five

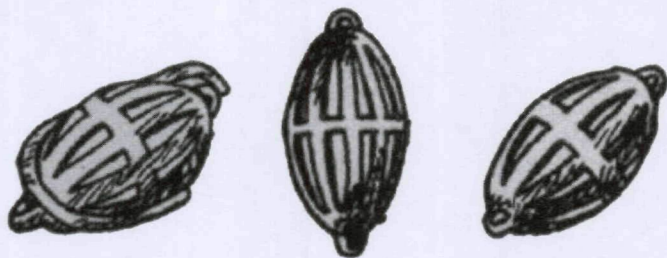


FIGURE 4 *Tepe Giyan (after Contenau & Ghirshman 1935, pl. 30)*

4 Contenau & Ghirshman 1935, pl. 30.

5 Muscarella 1988, 68.

6 Ghirshman 1939, 50.

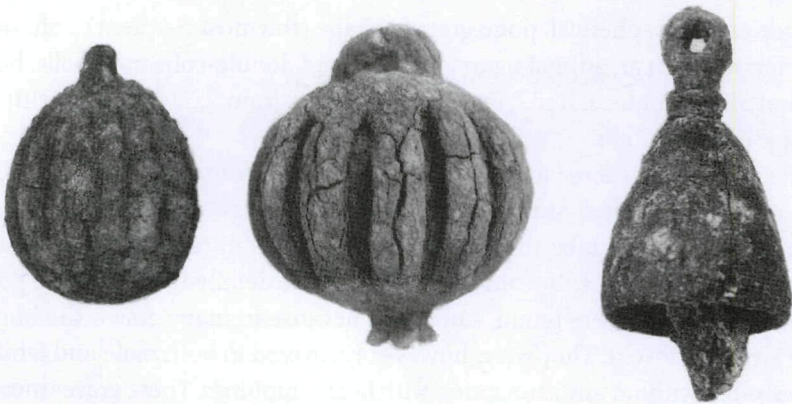


FIGURE 5 *Tepe Sialk (after Ghirshman 1939, pl. 25)*

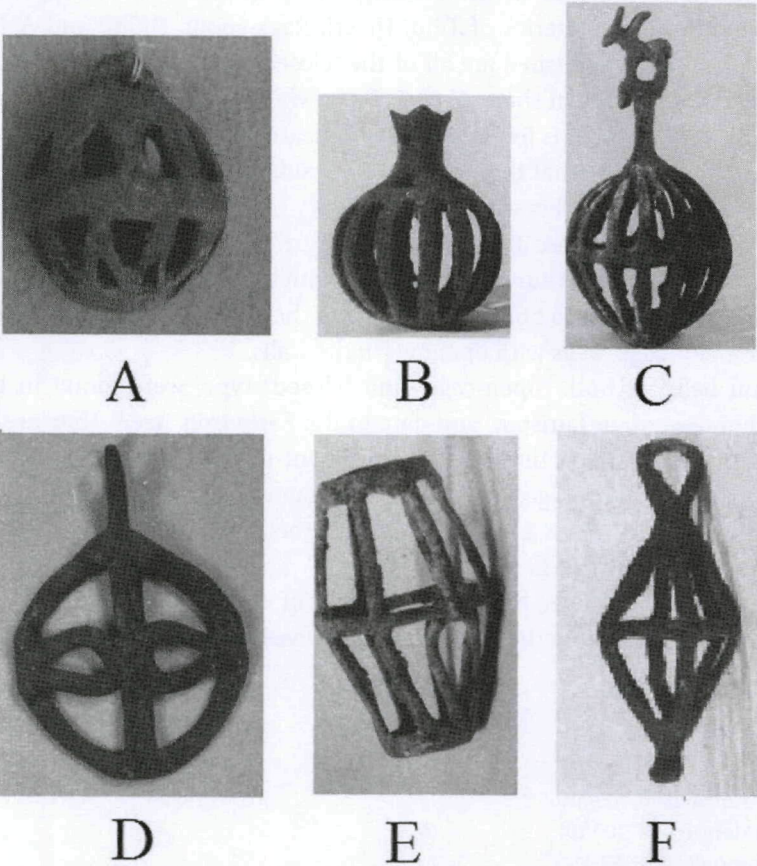


FIGURE 6 *Marlik (after Negahban 1996, vol. II. A: pl. 136, No. 942; B: pl. 136, No. 943; C: pl. 136, No. 947; E: pl. 136, No. 951; D: pl. 68, No. 269; F: pl. 137, No. 954)*

categories: plain spherical, pomegranate shape (the most frequent), spherical cage topped with an animal figure, flat cage and double-cone cage bells, both decorated and undecorated.⁷ Their height ranges from 3.5 to 9.5 cm, with an average of about 7 cm.

The archaeological records show that they were grouped in certain tombs, that usually contained similar bells – but they were sometimes different from those in other tombs, thus indicating that probably they were specifically meant for the owner.⁸ Unfortunately there is not a detailed report of the position in which they were found – not least because in many graves the bones were virtually absent. They were, however, recovered in both male and female graves, often without any association with horse trappings. These graves mostly date to the Early Iron Age.

To the first stage of Iron Age also belong various bells, of varying type and size, found by de Morgan in the border area of Talesh, between Iran and Azerbaijan, in the cemeteries of Tülü, Hivéri, Raaz-goour, Djönü and Agha-Evar (Fig. 7). Those published are all of the “closed” type and the most common kind is of pyramidal shape (Fig. 7, C-G), which seems to lack a clapper inside; this type of “bell” is frequent in the Caucasus area. The French scholar J. de Morgan suggested that they should be considered pendants belonging to the deceased rather than horse decorations.⁹

In Hasanlu six bells were discovered in the Corridor Building (Fig. 8), dating to the Iron Age II, 9th century BCE, together with horse bits, breastplates and other objects pertinent to horse harnesses and their attachments.¹⁰ These are globular “open-cage” bells with openings in the walls.

Several bells, of both “open-cage” and “closed” type, were found in the Khūrvīn graveyard, in Luristan, and date to the Early Iron Age.¹¹ They are all furnished with a ring on the top for attachment to a chain (Fig. 9) and are about 7 cm high on average. No detailed information is provided about their position within the grave. Three “closed” type bells were also found in War Kabud, within a probable horse burial.¹²

To this period, however, belong eleven bells of various shapes, all “closed” and made of bronze, from the controversial Ziwiye hoard (Fig. 10); Ghirshman

7 Negahban 1996, 307-310.

8 Negahban 1996, 309-310.

9 de Morgan 1896, 100-101.

10 Muscarella 1988, 67.

11 Vanden Berghe 1964, 26.

12 Haerinck & Overlaet 2004, 54-55.

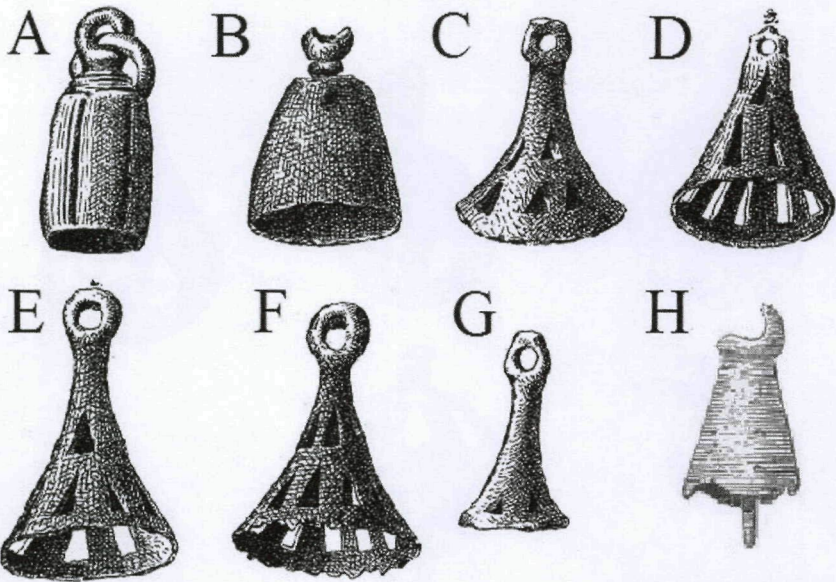


FIGURE 7 Talesh area (A-G: after de Morgan 1896, 100, fig. 101; H: after de Morgan 1905b, fig. 674)

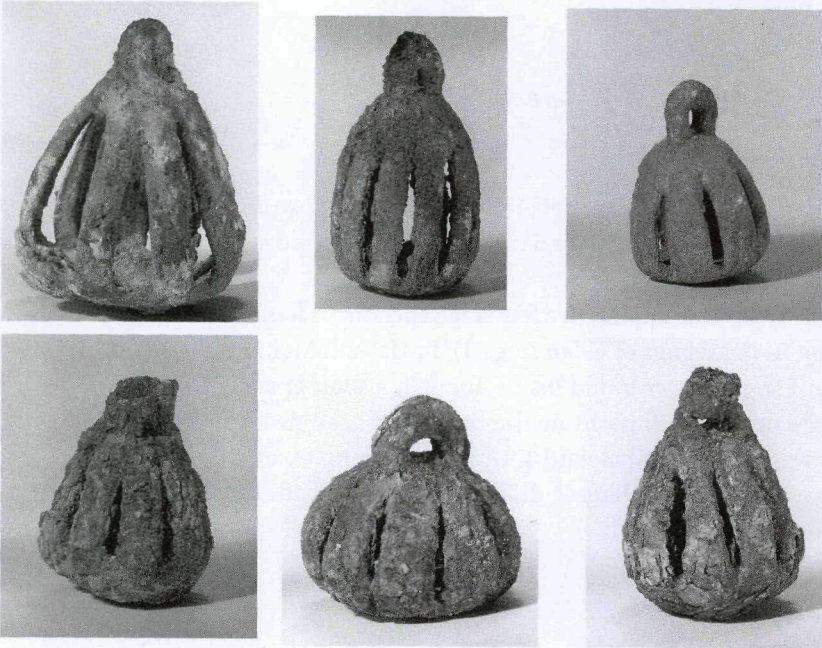


FIGURE 8 Hasanlu (after www.metmuseum.org)

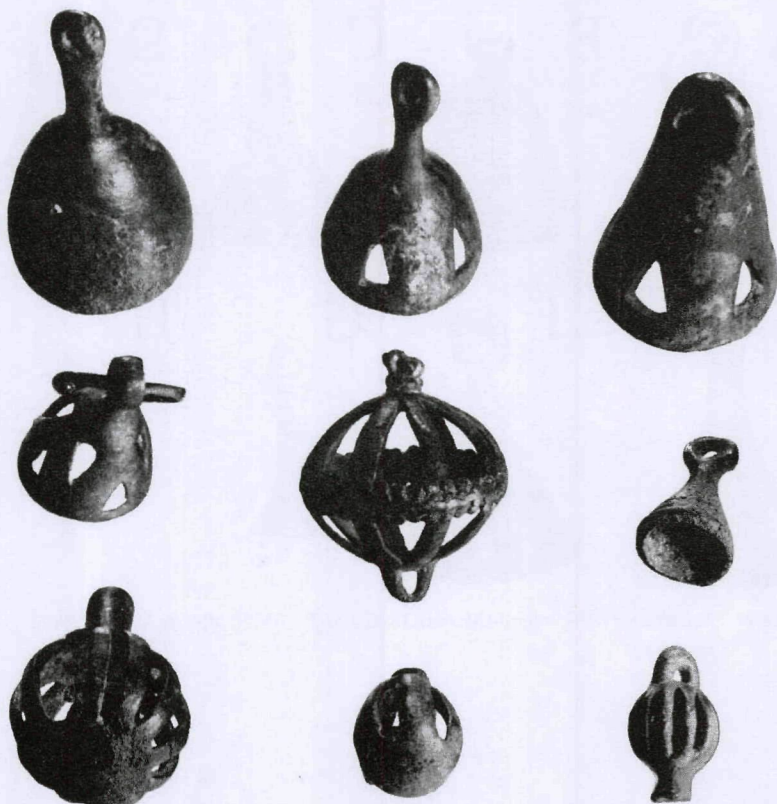


FIGURE 9 *Khūrvīn* (after Vanden Berghe 1964, pl. 37)

considered them as horse decorations.¹³ Two of those illustrated here are 13 cm high with an opening of 8 or 6 cm, while the third is 6 cm high with an opening of 2.2 cm.

The same date applies to a few small specimens found by the Japanese expedition in the region of Gilan (Fig. 11). In Hasanli Mahale a bell of the “closed” type (Fig. 11, *B*) was found inside Tomb 7, a shaft-grave with the remains of a female in crouched position; the bell was placed near the knees.¹⁴ The other bell was found in Ghalekuti I, Grave 9, a complex of six burials placed one above the other, making it difficult to establish the original position of all the objects.¹⁵

13 Ghirshman 1979, 40.

14 Sono & Fukai 1968, 13-14.

15 Sono & Fukai 1968, 39-40.

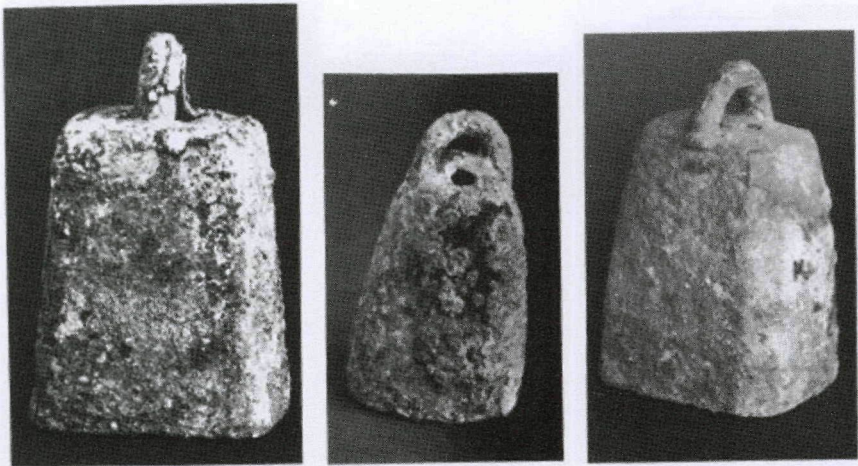


FIGURE 10 Ziwiye (after Ghirshman 1979, pl. 6)

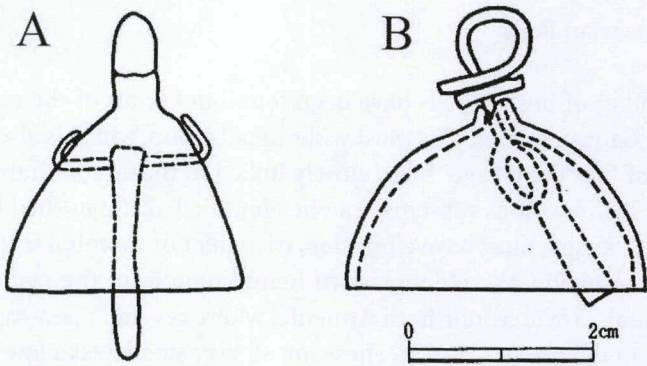


FIGURE 11 Dailaman (after Sono & Fukai 1968. A: pl. 87, 9; B: pl. 71, 9)

A gold pendant decorated with turquoise, carnelian and lapis lazuli inserts found within a bronze sarcophagus in a grave in the south-east part of the citadel of Susa dates to the Achaemenid period.¹⁶ According to the illustration published by de Morgan, the pendant's metal chain seems to be composed of nine "open-cage" metal bells (Fig. 12).

16 de Morgan 1905a.

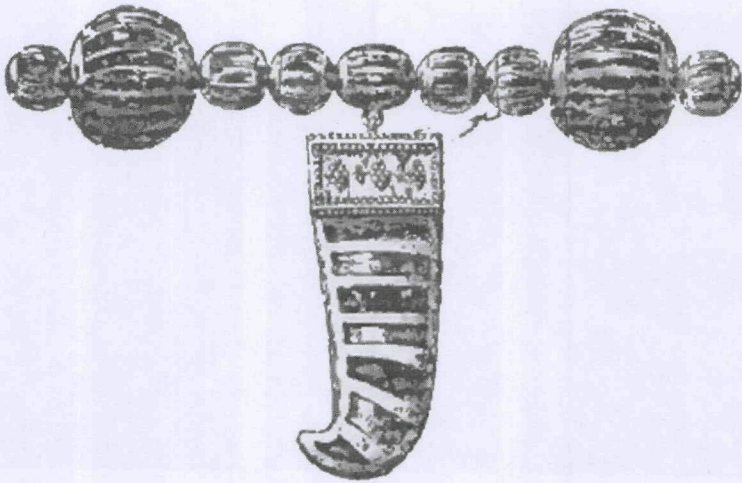


FIGURE 12 Susa (after de Morgan 1905a, 49, fig. 77)

Caucasian Bells

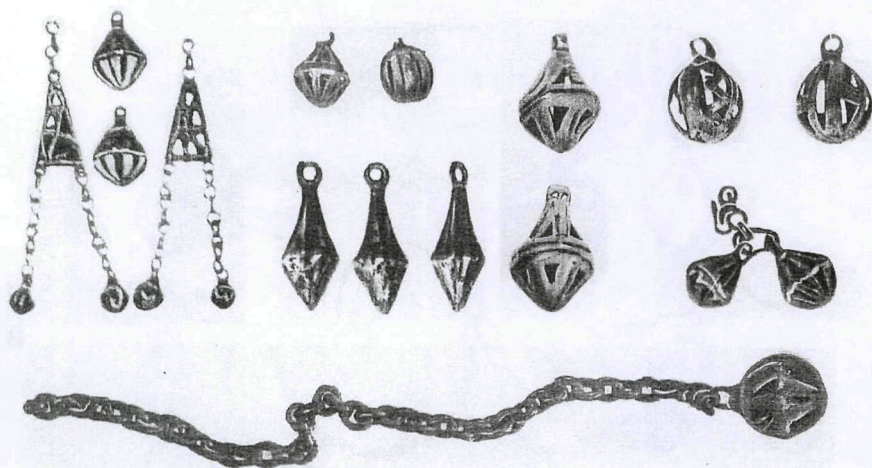
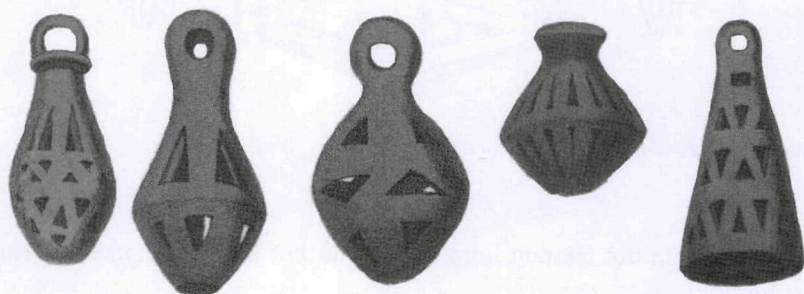
A large number of bronze bells have been found in burials of the native cultures of the Caucasian area. The most widespread group, which is also the oldest, is that of the “open-cage” bells, closely linked to those from Iranian sites. Within this group various sub-types can be identified, distinguished by differences in body shape; most have elongated, triangular or rhomboidal profiles.

What are probably the oldest known items come from the necropolis of Artik, in Shirak province, northern Armenia, where several “open-cage” items were found in the graves (Fig. 13). These are all very small, just a few cm high. Some were found still attached to metal chains and thus may have been part of more complex pendants or earrings.

Unfortunately in most of cases the bones were poorly preserved, so it was not possible to determine the sex of the deceased. In some cases, weapons are part of the grave-goods, but in general most graves have only pottery and a few decorative bronze items. In the late phase of the Bronze Age differences in grave-goods according to sex are not as clear as in the following centuries. Some bells were found in 14th-13th BCE century graves, while most were in tombs of the 12th-11th century BCE.¹⁷

At the beginning of the Iron Age the presence of these objects becomes more frequent. “Open-cage” bells have been found in the cemetery of Redkin Lager (Fig. 14), near Lake Sevan. Those excavated by the Austrian archaeologist

¹⁷ Хачатрян 1979, 14-15.

FIGURE 13 *Artik (after Хачатрян 1979)*FIGURE 14 *Redkin Lager (after Bayern 1885, pls. 9-10)*

F. Bayern date to the 13th-12th century BCE, whereas those unearthed by Mur'e are slightly later in date.¹⁸ The precise find-spots are not reported.

To the same period belong also several items found in the Lori-berd cemetery in Lori province, north Armenia (Fig. 15), which vary in shape and size but are all of "open-cage" type. These were found in two graves, Nos. 2 and 7.¹⁹ In Grave 2, 30 "bells" were found below a stone slab and were considered to be part of a horse harness. Inside this grave no bones were present; they had probably disintegrated – or perhaps cremation had been performed.²⁰

¹⁸ Есаян 1976, 118-122; 143, fig. 110, Nos. 5-7.

¹⁹ Деведжян 1981, 25-37.

²⁰ Деведжян 1981, 25.

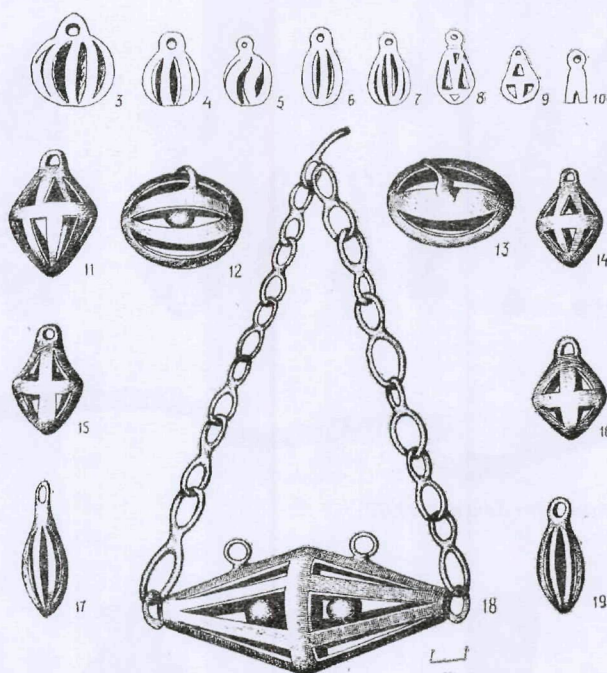


FIGURE 15 *Lori-berd* (after Деведжян 1981, pl. 6)

Grave 7 also did not contain human remains, but bones of horse and cattle were found.²¹

Various examples come from Syunik, the southernmost province of Armenia, and they mostly date to the 9th-7th century BCE (Fig. 16). In Tanzaver two “bird-cage” bells were found in cist-graves along with pottery, various iron weapons and bronze objects.²² One of these was inside a grave with four skeletons, but the grave layout and the sex of the dead were not recorded. A rich male grave excavated in the village of Shikaoch yielded, along with iron weapons and many bronze adornments, bell-shaped pendants, open at the bottom and with slits in the sides, which were found next to the lower jaw.²³ They were probably part of some sort of necklace. In Khnatsakh, another rich burial – where two silver bracelets were found, along with weapons and various bronze

21 Деведжян 1981, 27.

22 Хнкикян 2002, 87-88.

23 Хнкикян 2002, 84-86.

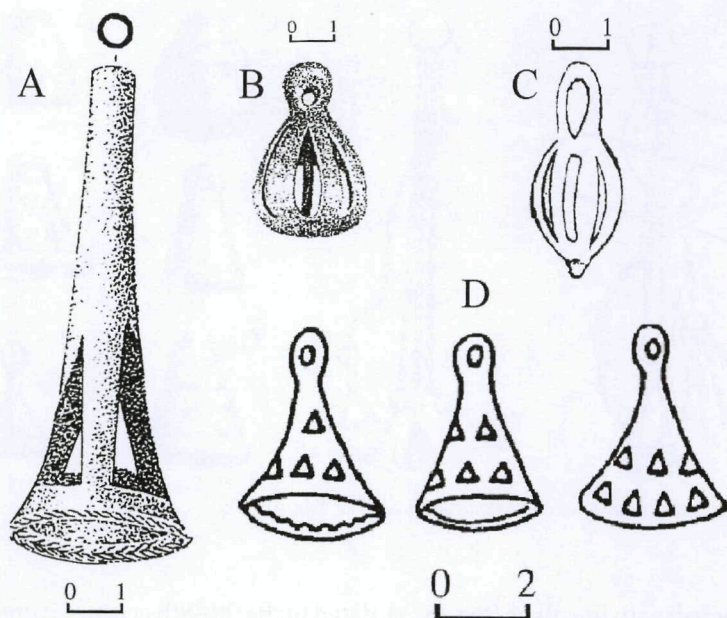


FIGURE 16 *Syunik* (after *Xnkikyan* 2002. A: pl. 90; B: pl. 85; C: pl. 84; D: pl. 82)

objects – furnished an elongate bell-shaped pendant.²⁴ The bones were unfortunately badly preserved.

Similar items found in other cemeteries in the Armenian highland date to the first half of the Iron Age.

Bells were discovered in the Karmir-berd necropolis,²⁵ in both cist-graves and kurgans, but their precise find-spots are not known. The same problem of provenance concerns several items recovered by de Morgan in the Alaverdi area (Fig. 17). He reports, however, that they came from both male and female graves.²⁶ They date mostly to the 10th-7th century BCE and are all of the “closed” type, with or without side openings. Some do not have a loop on the top, suggesting probably that there was another means of attachment. Two finds from Mouçî-yéri necropolis show how such bells might also be grouped together, attached to metal chains or metal tubes, and be part of complex adornments composed of various bronze objects (Fig. 17, A-B).

One of the published bells (Fig. 17, G) is curiously very similar to an item recovered in Grave 4 at Bastam, which is described below.

²⁴ *Xnkikyan* 2002, 91.

²⁵ *Арешян* 1970, 241, fig. 29.

²⁶ *de Morgan* 1889, 124.

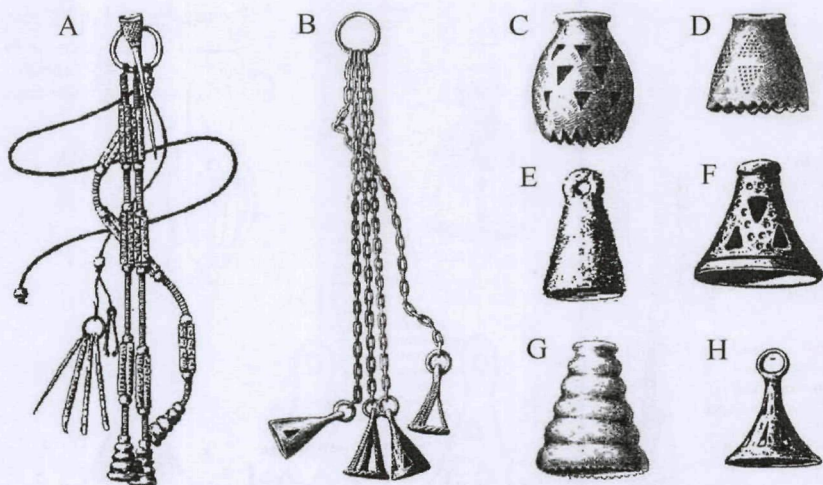


FIGURE 17 *Alaverdi* (after de Morgan 1889, 124-127, figs. 103-106)

Another bell with openings (Fig. 18, A), dated to the 9th-8th century, came from a grave (probably female) in the Astkhi-blur necropolis, in the Tavush region.²⁷ In Vanadzor (former Kirovakan), in a cist-grave where two human skeletons and two horse's skulls lay,²⁸ some "closed" type bells were found which date to around the 7th-6th century BCE (Fig. 18, B).

Numerous bells have been found in Western Azerbaijan and they date mostly to the Early Iron Age.

Detailed information comes from the Kalakent area, which was investigated by German and Russian teams at the end of the 19th century.²⁹ In the burial-ground named "Paradiesfestung", excavated by W. Belck, a first "open-cage" bell was found in Grave 47 (Fig. 19, B), a cist-grave with two skeletons and a horse. According to the excavator the bell, 5 cm high, was part of the horse harness.³⁰ The grave also contained bronze weapons, various bronze adornments and other iron and bronze objects. Two other "cage-type" bells were found in Grave 92 (Fig. 19, C-D), which otherwise yielded only a few bronze ornaments. The tomb was a cist-grave with two skeletons inside but the sex of the deceased is not reported.³¹ In Kalakent necropolis, Grave 12, two more "open-cage" bells (Fig. 19, A) were found together with various bronze objects, but no weapons.³²

²⁷ Есаян 1976, 131-133.

²⁸ Мартirosян 1964, 215-216.

²⁹ Belck 1893; 1894; Ивановский 1911; Nagel & Strommenger 1985.

³⁰ Nagel & Strommenger 1985, 76-77.

³¹ Nagel & Strommenger 1985, 106-107.

³² Nagel & Strommenger 1985, 38.

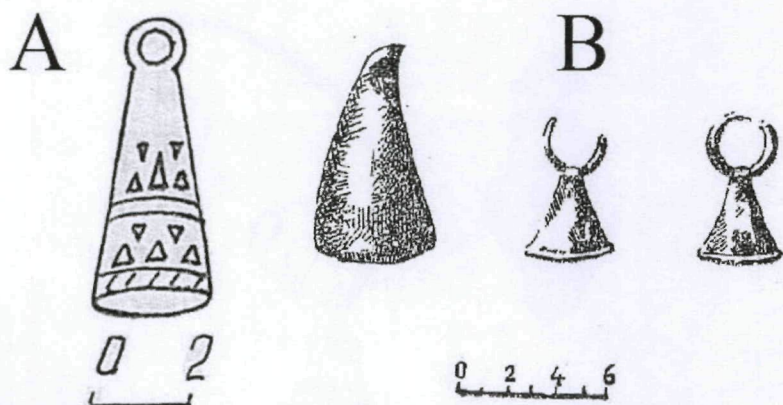


FIGURE 18 A: *Astkhi-blur* (after Есаян 1976, 164, fig. 121, 14); B: *Vanadzor* (after Мартirosян 1964, pl. 21)

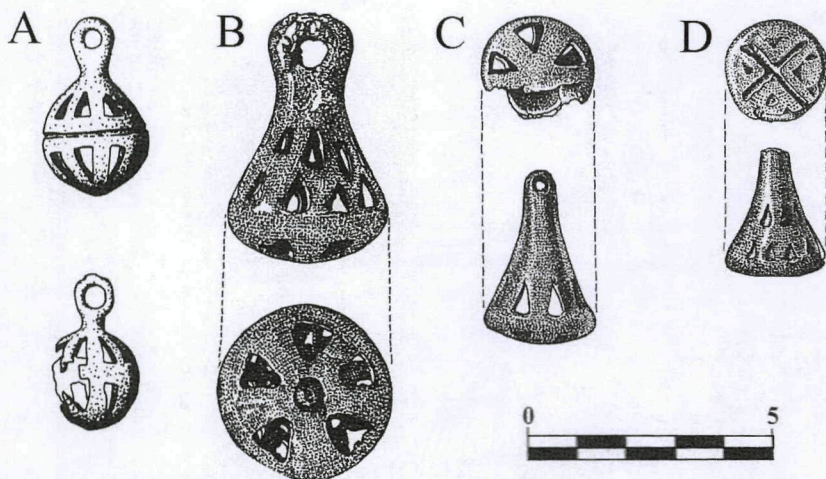


FIGURE 19 *Kalakent area* (after Nagel & Strommenger 1985. A: pl. 59, 10-11; B: pl. 19, 8; C-D: pl. 37, 7-8)

In the nearby Kedabeg cemetery, two “bird-cage” bells (Fig. 20) were found in a male grave, placed near the skull.³³ One was still fixed to a broken pendant of circular shape, the middle section of which has serpentine curves.

Several “closed” bells with iron clasps inside (Fig. 21) were found in cist-graves about 30 km north of Shusha, in the Karabakh region, near the village of Gülaplu. Drawings of the rest of the grave-goods were not published but,

33 Ивановский 1911, 98-100.

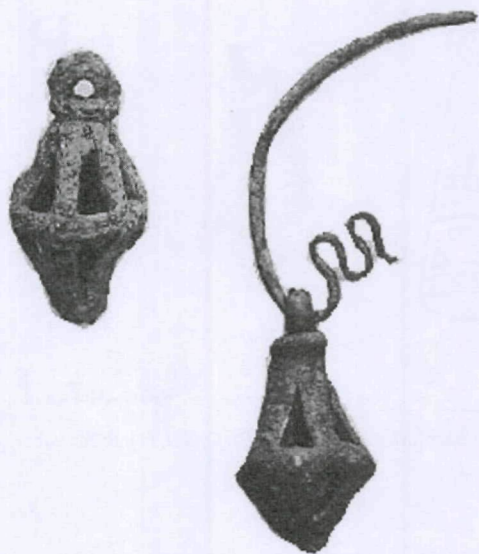


FIGURE 20 *Kedabeg* (after Ивановский 1911, pl. 9)

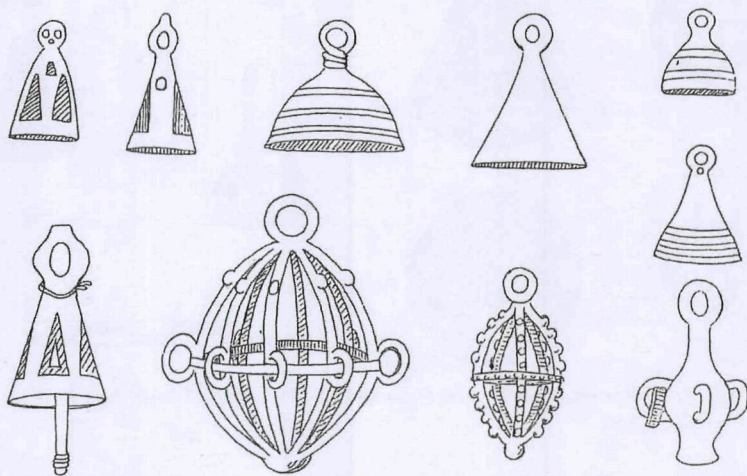


FIGURE 21 *Gülaplu* (after Rösler 1896, pl. 8)

according to the excavator E. Rösler, they resembled Early Koban objects,³⁴ thus suggesting an Early Iron Age date.

Other examples found in the Helenendorf cemetery, near the city of Ganja, also date to the 13th-12th century. Two came from Kurgan 48, which contained

34 Rösler 1896, 398-402, 399, pl. 8.

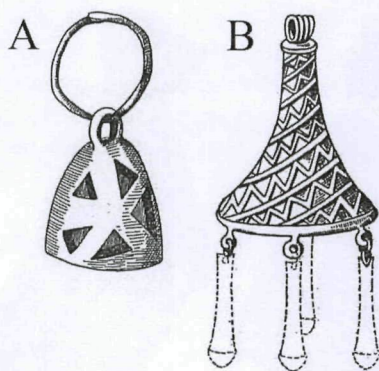


FIGURE 22 *Helenendorf* (after Rösler 1902. A: 187, fig. 213; B: 172, fig. 138)

two distinct cist-graves.³⁵ The first, similar to a “closed” type of conical shape, is probably a pendant; it is 6 cm high and has four loops for supporting additional components attached to the lower edge (Fig. 22, A). Two others, typical “bell-shaped” pendants with slits in the wall, are 3 cm high.³⁶ A further specimen was found in Kurgan 52,³⁷ which contained a male skeleton. It is of the “closed” type with triangular cuts in the wall and is 4.5 cm high (Fig. 22, B). Another, similar to the first of these, was found by Hummel in 1930.³⁸

In the Mingechaur area, a number of “bells” – especially of the “bird-cage” type – were discovered in both cist-graves and kurgans; in all they cover quite a long period, from the Early Iron Age to the 7th-6th century BCE, but mostly date to the earlier phases.³⁹ They are usually found in female graves, between the bones of the chest and back, which suggests that probably they were part of some costume.⁴⁰ From a necropolis with picher graves on the River Kura, two “closed” type bells were recovered from female graves (Fig. 23). They are made of bronze with an iron clapper inside⁴¹ and date to 13th century BCE.⁴² Others were also found in Chovdar, Khanlar and Dolanlar; most are simple “bird-cage” types of various shapes, but some are more highly decorated. For example, one “bell” from Mingechaur is decorated with ram’s heads on the sides (Fig. 24, A)

35 Rösler 1902, 167-177.

36 Rösler 1902, 172, figs. 140-141.

37 Rösler 1902, 183-189.

38 Hummel 1933, 213, fig. 5.

39 Асланов *et alii* 1959, pl. 18.

40 Асланов *et alii* 1959, 81-82.

41 Казиев 1960, 26.

42 Казиев 1960, 27.



FIGURE 23 *Necropolis on the River Kura (after Kazuev 1960, pl. 39)*

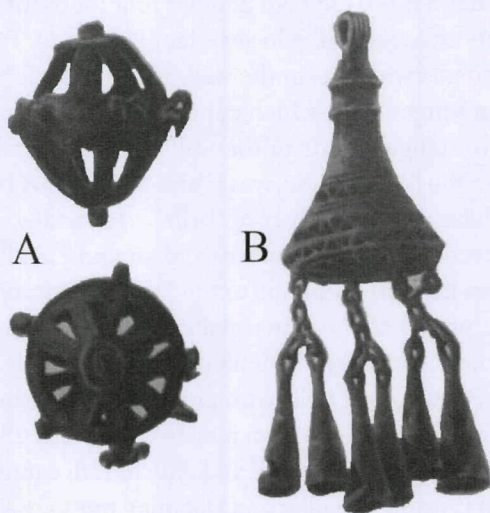


FIGURE 24 *Mingechaur (after Садыкзаде 1971, pl. 13, 17, 19)*

and one from Khanlar consists of a larger bell from which hang several other smaller bells (Fig. 24, B).

Many “bells” also come from present-day Georgia; most seem to fit within the tradition of the “Koban Culture”.

In Stepantsminda, near Mt. Kazbek, about 50 bells have been found⁴³ – they come from both graves and hoards, but the precise find-spots of most items are

43 Tallgren 1930, 134.

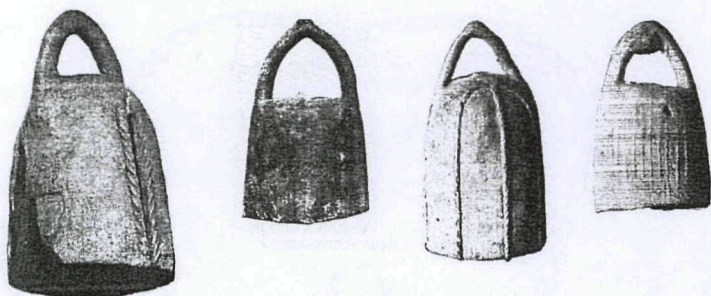


FIGURE 25 *Stepantsminda* (after Tallgren 1930, 135, figs. 38-41)

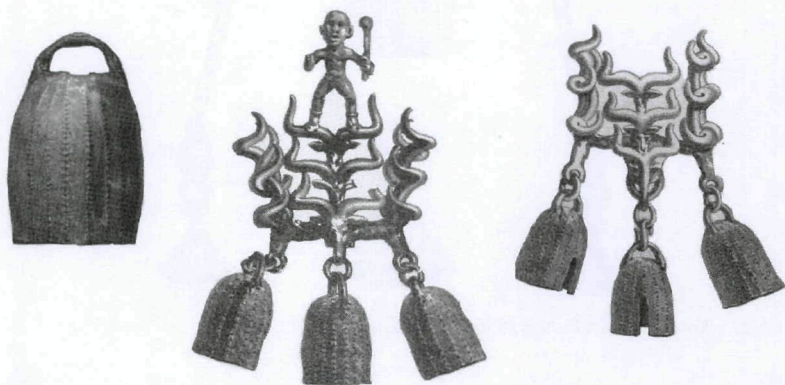


FIGURE 26 *Stepantsminda* (after Chantre 1886, pls. 57, 1, 4; 60, 7)

not known (Figs. 25-26). Some of them hang from amulets and other objects, whereas others were found alone. Most are large and longish (the length ranges from 3.5 to 10 cm); some are smooth and undecorated, others decorated with perpendicular lines.⁴⁴ At least two, however, are components of earrings and were found during G. D. Filimonoff's excavation of vase contents, along with many other metal objects.⁴⁵ Also the objects published by E. Chantre as coming from an unspecified necropolis near Gori, were in reality plundered by local villagers from Stepantsminda or Koban, as was demonstrated by Tallgren.⁴⁶

In the Koban cemetery, again near Mt. Kazbek, many "bells" have been found. Some are of the "open-cage" type and were found still attached to metal

44 Tallgren 1930, figs. 38-41.

45 Chantre 1886, 132-137.

46 Tallgren 1930, 115.



FIGURE 27 *Koban* (after Chantre 1886, pls. 27, 1, 9; 31, 7)

chains; others are typical “closed” bells (Fig. 27). Unfortunately their precise find-spots are not given by Chantre.

Some items come from the Mtskheta area. F. Bayern found bells in 1876 in Samtavro (Fig. 28), while others were unearthed during the following century.⁴⁷ For some it is difficult to say if they were bell or pendant since they do not have suspension rings. One is a typical simple “closed” bell with clasp inside. Another group of four items resembles bells but they are very small (Fig. 29).

To the 14th-13th century BCE belong two bells from the necropolis of Kviratskhoveli,⁴⁸ in central-southern Georgia. They were found in two pit-graves, 83 (Fig. 30, A) and 89 (Fig. 30, B), probably female. Slightly later is the “bell-shaped” pendant found in Grave 61, Gantiadi necropolis, in a rich male burial.⁴⁹ It is attached to a chain and thus would have been part of a necklace pendant (Fig. 30, C).

47 Калаңдадзе 1982.

48 Гамбашидзе *et alii* 1985, 34.

49 Кахиани *et alii* 1985, 29-31.

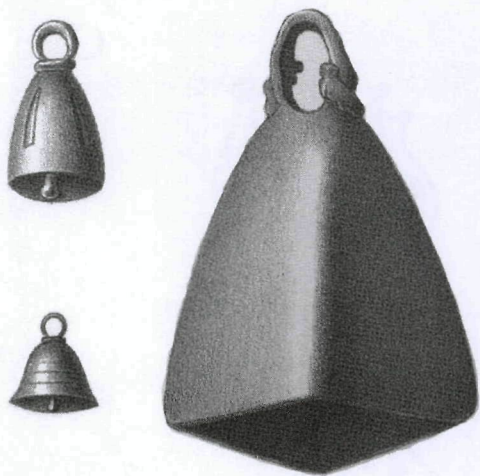


FIGURE 28 *Samtavro* (after Chantre 1886, pl. 49, 13-15)

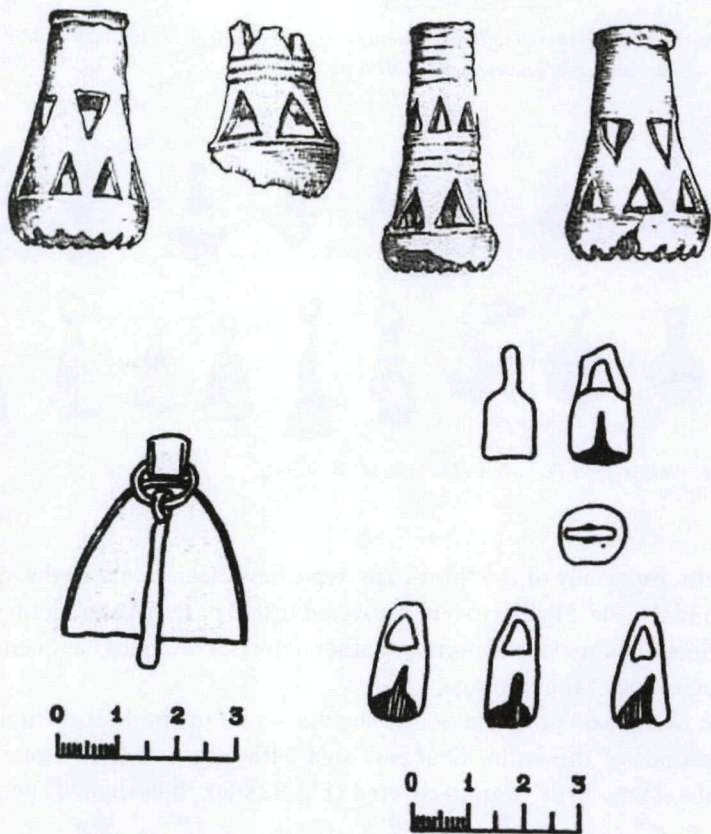


FIGURE 29 *Mtskheta* (A: Каландадзе 1982, figs. 669-672, 1158, 1203)

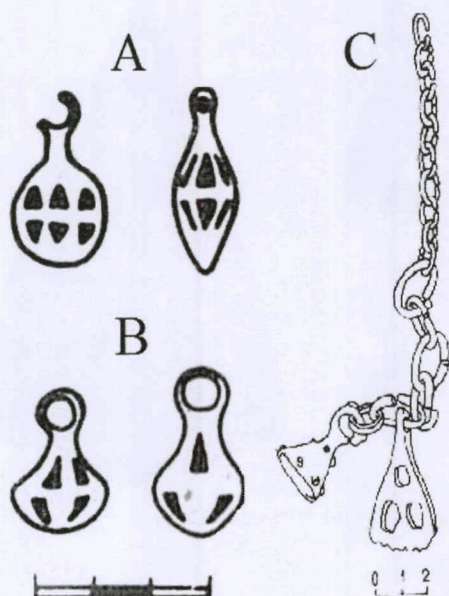


FIGURE 30 A-B: *Kviratskhoveli* (after Гамбашидзе et alii 1985. A: pl. 36, 10, 19; B: pl. 37, 9, 10); C: *Gantiadi* (after Кахиани et alii 1985, pl. 30)



FIGURE 31 *Shilda* (after Pizchelaury 1984, 58, pl. 34, 1-19)

Many bells, especially of the “bird-cage” type, have been found in the sanctuary of Shilda⁵⁰ (Fig. 31). They were recovered inside pottery vases along with a large collection of metal weapons and other objects. The hoard has been dated to the beginning of the Iron Age.

In the necropolis of Tli, in South Ossetia – one of the best documented burial-grounds of the entire Caucasus area with over 500 Late Bronze-Iron Age tombs – few “bells” were recovered (Fig. 32). Six “bell-shaped” pendants

⁵⁰ Pizchelaury 1984, 42-44.

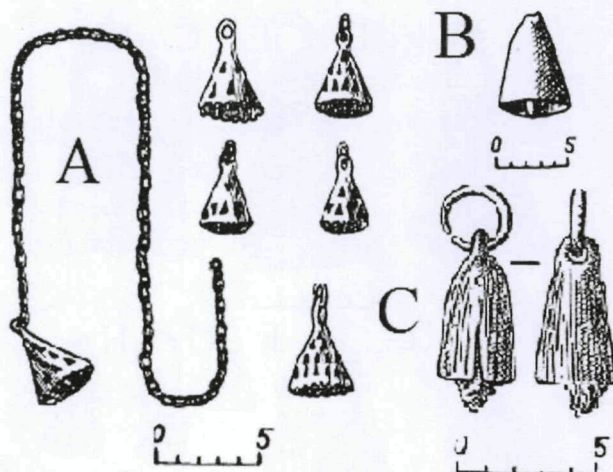


FIGURE 32 *Tli* (after Texos 1981. A: pl. 102; B: pl. III, n. 4; C: after Texos 2002, pl. 80, n. 11)

with openings in the wall were found in a child's grave,⁵¹ while another "closed" type was found in a rich male grave.⁵² They both date to the first half of 7th century BCE. To the 7th century also belongs another "closed" bell with clasp inside found near the arm bones of a male skeleton.⁵³ Five more "closed" bells were found in both female and male graves dated to the second half of 7th-6th century.⁵⁴

Not many bells have been found in Western Georgia and they are later in date. Two "bell-shaped" pendants, conical with openings in the walls (Fig. 33, *I, L*) were found in a multiple tomb in the Ergeti necropolis, in the Colchis; they date to the early 6th century BCE.⁵⁵ Some items were also found in Abkhazia in the burial-grounds of Krasnyĭ Mayak and Gaudichu.⁵⁶ They are all of the "closed" type and vary in shape; the dimensions also vary, with heights of up to 7-8 cm. A bell from Krasnyĭ Mayak has the walls decorated with wavy vertical lines and a bird is depicted on one side (Fig. 33, *C-E*). They date to the 8th-6th century BCE and were found in simple pit-graves, not particularly rich, together with some bronze ornaments; in most cases the bones were poorly preserved or totally absent.

51 Техов 1981, 34.

52 Техов 1981, 39.

53 Техов 2002, 40-41.

54 Техов 1985, pl. 220.

55 Микеладзе *et alii* 1985, 39-40.

56 Трапш 1969, 98-101.

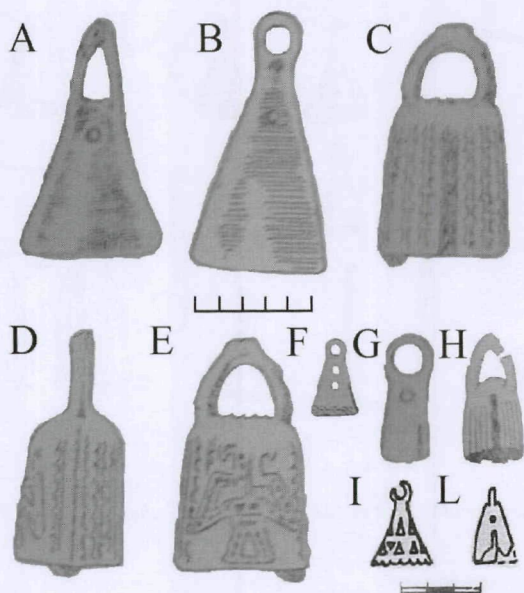


FIGURE 33 A-H: Abkhazia (after Tpanu 1960. A-G: pl. 22; H: pl. 4, 6); I-L: Ergeti (after Мукеладзе 1985, pl. 53)



FIGURE 34 A-H: Koban area (after Козенкова 1998, pl. 12); I-O: Serzhen'-Yurt (after Козенкова 1992, pl. 23, 6-8; pl. 78, 29, 32)

Before concluding this section about Caucasian specimens, a few words must be said regarding the northern Caucasus, where the use of metal “bells” is attested, especially in the “Koban Culture” sphere and in the later Scythian territories.

Many bells of both “closed” and “open-cage” type have been found in various Koban Culture sites in Chechnya and Ingushetia (Fig. 34, A-H). Some resemble items found in Late Bronze-Early Iron Age contexts in the cemeteries of Koban (Fig. 34, B) and central Georgia (Fig. 34, F), which have been discussed above. They may have had various uses, as components of horse harnesses or human costume, and are often parts of pendants that were attached to belts; they date

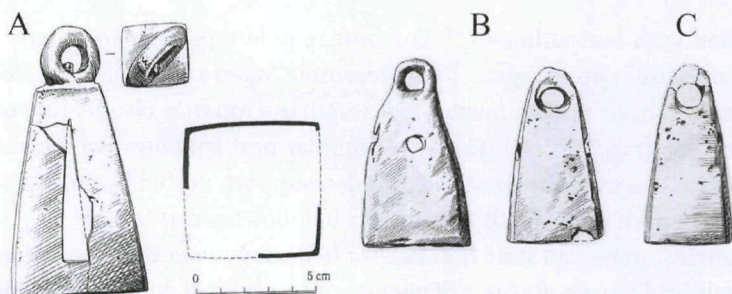


FIGURE 35 *Kelermes* (after Galanina 1997, A: pl. 17, 90; B: pl. 22, 272, 276; C: pl. 23, 269)

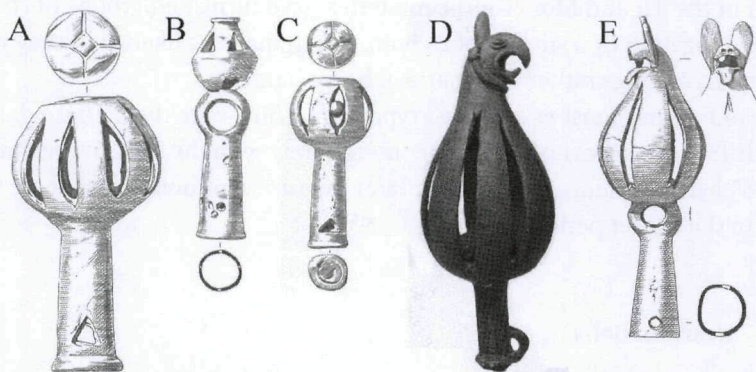


FIGURE 36 *Kelermes* (after Galanina 1997, A-C, E: pl. 44, 45, 214, 67, 300; D: pl. 6, 218)

mostly to the 8th-6th century BCE.⁵⁷ In Serzhen'-Yurt two bells (Fig. 34, I-L) were found at the waist of the skeleton which had some typical female grave-goods but also some weapons,⁵⁸ three others, very small (Fig. 34, M-O) were present in another (probably female) tomb, positioned below the arm bones.⁵⁹

Despite the fact that they belong to a different tradition, some objects found in the well-known complex of Scythian kurgans at Kelermes are also worthy of note, especially due to their relationship with Urartian and Caucasian cultures. A trapezium-shaped bell with a square base about 5 cm across and a triangular slit on one side (Fig. 35, A) partially resembles similar artifacts from Karmir-blur. From the same site at least two other bronze bells are known with the same shape but without side openings (Fig. 35, B-C). They were directly

57 Козенкова 1998, 41-42.

58 Козенкова 1992, 90.

59 Козенкова 1992, 81.

associated with buried horses.⁶⁰ The bronze pole-tops are particularly interesting, since their upper parts closely resemble “open-cage” bells (Fig. 36, A-C) and they can have a pellet inside (Fig. 36, C); the top may also feature an animal protome (Fig. 36, D-E). The lower tubular part is hollow, which suggests that these elements were fixed to a wooden support, probably a rod or a staff, and they recur in other Scythian contexts in following centuries.⁶¹

In conclusion we can state that bells or bell-shaped pendants were found in both male and female graves, not necessarily associated with horse trappings. In some cases they were found near the waist or neck of the deceased, suggesting that they could have been attached to a belt or some sort of necklace. Burials in the Tli and Mouçi-Yeri cemeteries have furnished groups of “bells”, each tied together by a small metal chain, which makes it likely that they were clothing accessories rather than parts of horse harnesses.

The oldest and most widespread type is the “bird-cage” bell. These date to the 14th-13th centuries and are thus contemporary with the Iranian specimens. “Closed” bells are more common in later centuries, although a few are also found in the earlier period.

Uartian Bells

Few metal bells are known from archaeological excavations of Uartian sites, whereas many more items come from the antiquities market. Previous studies devoted to these objects include that of Oscar W. Muscarella, whose discussion of Uartian bells forms part of a wide-ranging work concerned with the relationship between Urartu and the West, especially Greece,⁶² and the recent analysis of Ursula Seidl,⁶³ who divided Uartian bells into three main types: octagonal in shape with rectangular openings on the faces; conical with vertical sides and simply conical.

In this paper we have chosen to focus primarily on material from reliable archaeological contexts and other unprovenanced finds associated with a reasonable degree of certainty with a particular archaeological site. There are several items from Alishar, Karmir-blur, Yerevan, Bastam, Dizginkale and several

60 Galanina 1997, 63.

61 Bouzek 1971, 84.

62 Muscarella 1978, 61-72.

63 Seidl 1991, 79-96; 2004, 115-116.

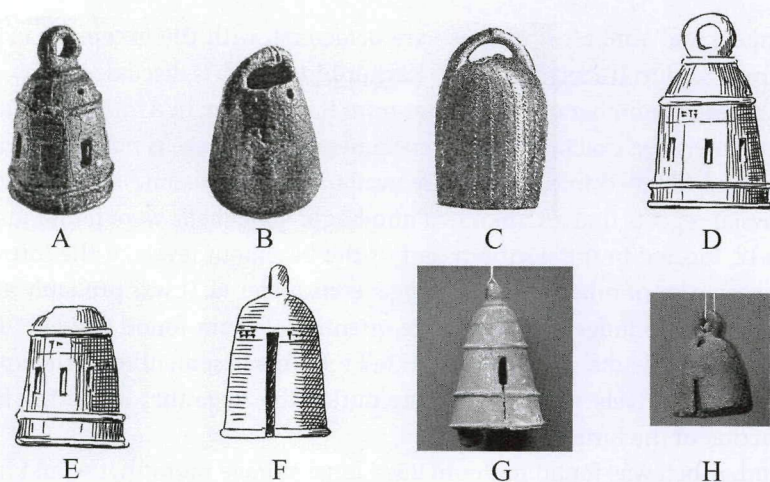


FIGURE 37 *Karmir-blur* (A-B: after *Пуомповский* 2011, 643, figs. 1058, 1059; C: after *Пуомповский* 1955, 46, fig. 35; D-E: after Seidl 2004, 115, fig. 87, a-c; F-G courtesy of Erebuni Museum)

cemeteries in the vicinity of Patnos and Van.⁶⁴ These bells may be placed in the “closed” category.

They can be further divided into two subcategories: those of octagonal shape with square openings in the walls of the bell, and those of conical shape, in some cases with small lateral slits.⁶⁵ There are also several examples which seem to belong to a different tradition, probably of Caucasian origin, and others which exhibit a hybrid nature.

On the basis of the few items bearing cuneiform inscriptions, we can consider as typically Urartian only those of octagonal shape and those of conical shape with a side-slit.

The only inscribed bells found in definitely Urartian contexts date to the reigns of kings Sarduri II⁶⁶ and Argishti I.⁶⁷ Greater uncertainty regards those bells bearing inscriptions of Minua, Argishti I and Argishti II which come from

64 A detailed list of the known bells is not possible due to uncertainty regarding the total numbers of items found in Karmir-blur.

65 Seidl 1991, 80.

66 *CTU* IV, B 9-29; Seidl 2004, 115, fig. 87, b.

67 Seidl 2004, 115, fig. 87, c; *CTU* IV B 8-22. There are many bells recorded from the antiquities market; see Seidl 2004, Minua (C.49, C.50), Argishti I (E.25, E.26), Sarduri II (F.186), Rusa I (H.4).

Dizginkale and Van. Most of these are octagonal, with the exception of the item from Sarduri II's reign found in Karmir-blur which is discussed below.

The greatest number of bells comes from Karmir-blur, in Armenia (Fig. 37). Unfortunately the exact number of specimens found there is not known, and images and detailed information are available for only some of these bells. Piotrovskii reports that an unknown number of small bells were found inside Room 12, located in the northern part of the basement levels of the fortress, along with a lot of other rather heterogeneous material. It was probably a big storage room, to judge from the large quantity of grain found inside.⁶⁸ It is therefore possible that these materials fell into this basement from the upper level, or alternatively were placed here during the siege that led to the final destruction of the fortress.

Another bell was found in Room 25, a large storage room that would have served to support the upper floor. The bell, 7.4 cm high, was made of bronze with an iron clapper,⁶⁹ it had a cleft side and was decorated with horizontal grooves. A further four bronze bells were found in Room 36, one of the most important rooms, with six doorways giving access to the two central blocks of the fortress. Regarding these bells, only the overall height (11 cm) and the presence of an iron clapper were recorded (Fig. 37, *G*, probably); one of these, with a vertical opening, was also found together with two horse harness parts bearing an inscription of Minua.⁷⁰ Another bell currently kept in the Hermitage Museum (Hermitage, Inv. No. K-399) has a more rounded shape with an opening at the top, surmounted by a loop for attachment (Fig. 37, *B*). It is undecorated and has two symmetrical holes for fastening the clapper, which is no longer present. It measures 8.9 cm in height and 7.2 cm in diameter.⁷¹

A bell bearing an inscription of Sarduri II⁷² comes from Room 48.⁷³ It is a typical octagonal-shaped bell with eight square openings on the sides and four horizontal bands, two at the top and two at the bottom, which are raised externally (Fig. 37, *A*). The height is 9.5 cm and the diameter 6.1 cm; the presence of holes on the top might be related to some system for fixing the clapper.⁷⁴ Two other unpublished bells, of which only the drawings published by Ursula Seidl are known, bear short inscriptions of Argishti I and Sarduri II. The first

68 Barnett & Watson 1952, 142; Пиотровский 1950, 53.

69 Barnett 1959, 3-4; Пиотровский 1952, 21.

70 Barnett 1959, 14-15; Пиотровский 1955, 17, 43; *CTU* IV B 5-3.

71 Пиотровский 2011, 643.

72 *CTU* IV B 9-29, Hermitage, Inv. No. K-400.

73 Пиотровский 1956, 82; 1960, 108.

74 Пиотровский 2011, 643.

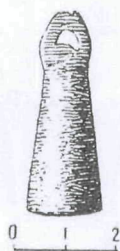


FIGURE 38 *Oshakan* (after Есаян & Калантарян 1988, pl. 60, 11)



FIGURE 39 *Karmir-blur* (after Мартиросян 1956, 71, fig. 10)

is almost identical to the item with the Sarduri inscription described above,⁷⁵ its top is broken and bears no trace of an attachment device,⁷⁶ the second is conical in shape with a cleft side (Fig. 37, *E*), rather pronounced compared to items from the antiquities market.⁷⁷ It is important to remember that some of the objects found in Karmir-blur dated by an inscription of a king preceding Rusa II, founder of the fortress, could actually come from the nearby site of Erebuni.⁷⁸

Other bells have been found in Urartian sites in Armenia along with material belonging to the native culture of the Armenian highland, it is thus difficult to assign such items to the Urartian or local tradition.

A “closed” type bell was found within a cromlech kurgan, thus typically local, in Oshakan (Fig. 38) where at least 11 deceased had been placed along with Urartian pottery, iron tools and bronze adornments.⁷⁹

75 *CTU* IVB 9-29.

76 Seidl 2004, 115, fig. 87, *b*.

77 Seidl 2004, 115, fig. 87, *c*.

78 On this issue, see, among others, Пиотровский 1966, 97.

79 Есаян & Калантарян 1988, 77-80.

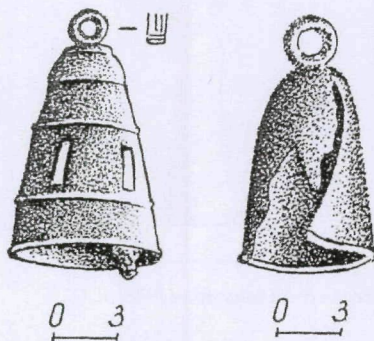


FIGURE 40 *Yerevan Columbarium* (after Есаян et alii 1995, pl. 7, 14-15)

A grave of the early Urartian period in Karmir-blur has yielded an “open-cage” bell (Fig. 39) along with a spear-head, bracelets, both simple and with snake-heads.⁸⁰

Another group of bells comes from the so-called columbarium of Yerevan, which has yielded two bells apparently very similar to those from Alishar (Fig. 40). One of these has the classical octagonal structure with five horizontal bands and four square openings between the second and the third band⁸¹ with a height of about 10 cm and a diameter of about 7 cm; the second, rather damaged, has a more rounded shape and bears no decoration,⁸² it is about 10 cm high and about 6 cm in diameter. The columbarium and other materials found in it generally date to the 8th century.

An archaeological context very similar to that just described above is represented by a columbarium discovered by chance in 1859 by several Kurds, at Alishar in what is now the Autonomous Republic of Nakhichevan.⁸³ The bells were found together with several other objects, some undoubtedly Urartian, but only some of these reached the Hermitage.⁸⁴ Two bells possess the typical Urartian octagonal shape (Fig. 41, A-B). One bears a short text of Argishti I⁸⁵ (Fig. 41, A) and is identical to the bell of Sarduri II from Karmir-blur described above; it differs only in size, being slightly shorter, with a height of 9 cm and a diameter of 5.7 cm. A second bell with no inscription (Hermitage, Inv. No.

80 Мартиросян 1956, 70-71, fig. 10.

81 Biscione 1994, 124, fig. 7, 14.

82 Biscione 1994, 124, fig. 7, 15.

83 For the circumstances of the discovery and other materials found in the burial see Пиотровский 1966, 29, 44-45, 312.

84 Of these materials see Пиотровский 2011, 543-544.

85 *CTV* IV B 8-22, fig. 9, a; Hermitage Inv. No. S-331.



FIGURE 41 *Alishar* (after Пиотровский 2011, 543-544, figs. 3-7)

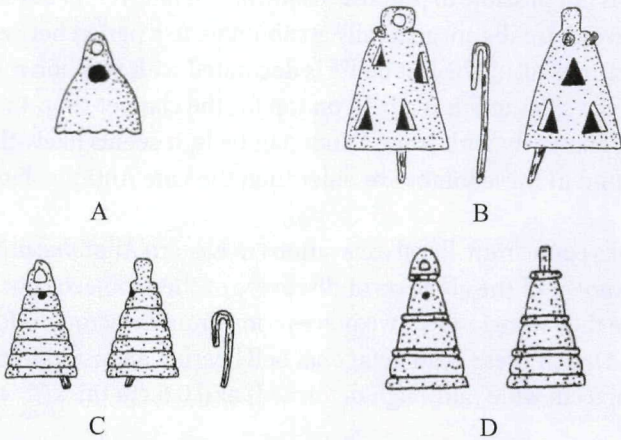


FIGURE 42 *Bastam* (after Kroll 1979, 156, fig. 7, 1, 18, 1a-b, 2)

S-329, Fig. 41, B) has ten faces instead of the usual eight, with a single quadrangular opening and the top immediately below the suspension ring decorated with five contiguous horizontal bands. This specimen measures 11.8 cm in height and 8.3 cm in diameter.⁸⁶ A third bell⁸⁷ is very similar to the rounded bells with smooth faces from Karmir-blur (K-399); this piece is 9.9 cm high and 8.5 cm in diameter (Fig. 41, C).

Four bells were discovered during the excavations of the fortress of Bastam (Fig. 42). Unlike all those described above, none of these can be considered as typically Urartian. One from the *Oberburg-Mittelburg* (Fig. 42, A) is dated to medieval times.⁸⁸ The other three were found in Tomb 4, one of a group of

86 Пиотровский 2011, 543.
87 Hermitage, Inv. No. S-330.
88 Kroll 1979, 156, fig. 7, 1.

tombs found at the *Ostbau* which in general are dated to Late Antiquity.⁸⁹ One of these has a bronze body and iron clapper inside⁹⁰ and a series of triangular openings in the wall, in some cases asymmetrical (Fig. 42, *B*); it is similar to several items found in the Armenian highland and Georgia⁹¹ which are usually older in date.

Another bell⁹² has a curved surface with horizontal stripes and a hole at the top for the attachment of a clapper (Fig. 42, *C*), now lost, and closely resembles an item from the area of Alaverdi (Fig. 17, *G*). Unfortunately, as for most of the graves, de Morgan did not leave a detailed description of the excavation and therefore it is not possible to propose a date for this bell. It is believed, however, that the Alaverdi tombs are generally attributable to a period between the 11th and 7th centuries BCE. The last bell⁹³ is decorated with two horizontal stripes in relief on the sides and has a hole on top for the clapper (Fig. 42, *D*). Due to their strong similarity with some Caucasian bells, it seems likely that most of the bells found in these tombs are older than the Late Antique date proposed by Kroll.

Other bells come from illegal excavations in Eastern Anatolia; unfortunately nothing is known of the contexts of discovery of these objects, but at least we know where they were found. Two pieces come from a necropolis located near Dizginkale. One of these is an octagonal bell bearing an inscription of Minua, 9.8 cm high, 8 cm wide (although deformed) and 0.5 cm thick,⁹⁴ with clapper preserved.

On the inscription is engraved the head of a bull, perhaps the animal for whom the bell – part of the property of the royal house – was made (Fig. 43, *A*). The second item is also octagonal in shape, with an inscription of Argishti I but no clapper; it measures 9 cm high, is 6.3 cm wide and 0.4 cm thick.⁹⁵ This bell also has an engraved bull's head decoration in the field containing the inscription (Fig. 43, *B*). A conical bell of unique aspect from the outskirts of Van bears an inscription of Argishti II on the lower body (Fig. 43, *C*). This bell measures 8.8 cm high, 4.7 cm wide and 0.3 cm thick and has lost its clapper.⁹⁶ A last example comes from a necropolis near Patnos and is of typical octagonal

89 Kroll 1979, 168.

90 Kroll 1979, 156, fig. 18, *1a*, pl. 52, 7.

91 See for example figs. 16, 17, 32.

92 Kroll 1979, 156, fig. 18, *1b*, pl. 52, 6.

93 Kroll 1979, 156, fig. 18, 2, pl. 52, 4.

94 Belli 1976-1977, 201-202, fig. 9.

95 Belli 1976-1977, 203, fig. 10.

96 Belli 1976-1977, 204-205, fig. 11.

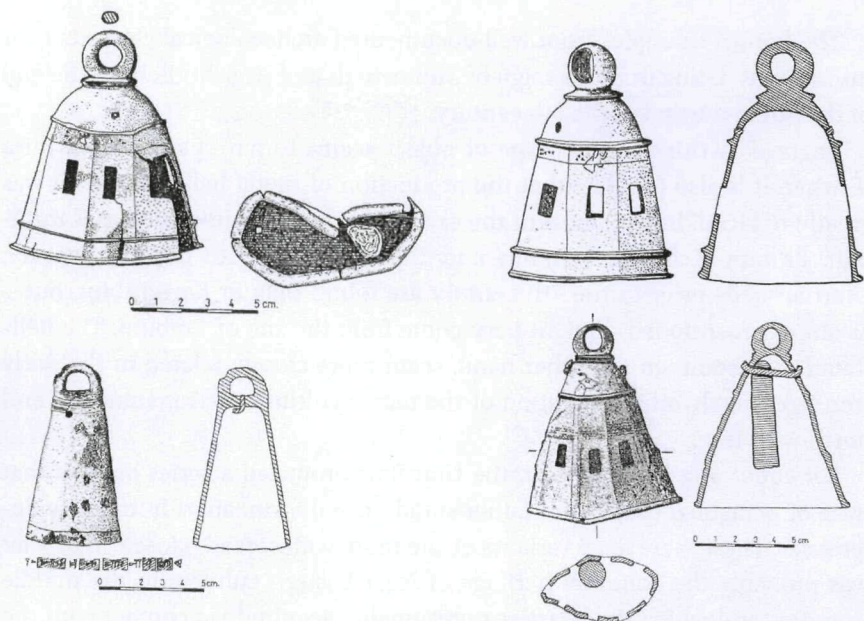


FIGURE 43 *Dizginkale, Patnos and Van (after Belli 1976-1977, 198-205, figs. 8-11)*

shape, with a metal clapper inside. It has rectangular openings on the sides and a horizontal band, on the upper part of which is engraved the head of a goat.⁹⁷ Immediately above the rectangular openings there are additional horizontal bands, apparently incised with geometric decorations of zigzag lines (Fig. 43, D).

Conclusions

On the basis of the data presented above, it would seem that the only bells which may be considered typically Urartian are those of octagonal shape, which are dissimilar to the metal bells found in Transcaucasia, northern Iran and the Near East and often bear cuneiform inscriptions. As discussed above, conically-shaped bells with a slit side may also be Urartian, since the only similar items come from the Kelermes kurgans, where other finds also show clear Urartian artistic influences.

97 Belli 1976-1977, 198-199, fig. 8.

The known examples from well-documented archaeological contexts bear inscriptions dating from the reign of Minua to that of Argishti II, from the end of the 9th to the end of the 8th century.

Engraved writing on this type of object seems to have ceased with Rusa II, when it is also possible that the production of metal bells in general was greatly reduced. In fact, most of the excavated Urartian sites, such as Karmir-blur, Bastam, Kef Kalesi, Ayanis and Toprakkale, date to the 7th century; Urartian bells prior to the 7th century are found only in Karmir-blur, but – as already mentioned – might have come from the site of Erebuni. The bells found at Bastam, on the other hand, seem more closely related to the Early Iron Age metalworking tradition of the native cultures of Transcaucasia and north-west Iran.

For about a century at least, the Urartians produced a series of bells that were of octagonal shape, and rather standardized form, apart from a few differences. These were local variants of the more widespread “closed” type that was probably the common heritage of Near Eastern cultures in the middle Iron Age, and which the Urartians presumably acquired via contact with the Assyrian world. They might have been used on the cattle and horses associated with royal properties.

Other items from Urartian sites described above show stronger similarities with bells from the Caucasian and north Iranian regions. “Open cage” bells and bell-shaped pendants circulated as early as the 9th century in Iranian Azerbaijan and Transcaucasia, prior to the arrival of the Urartians.

An increase in the circulation of these objects seems discernible from the first half of the 8th century, when the Urartians effected a systematic conquest of the regions beyond the river Aras; they became more common still in the 7th century BCE, after the possible assimilation of a Caucasian population component within the Urartian Kingdom. Archaeological evidence of this is provided, for example, by recent discoveries in the Outer Town of Ayanis.⁹⁸

The presence of these objects illustrates – as indeed do many other archaeological features – the powerful influence of native Armenian highland culture on the development of the Urartian presence in Transcaucasia.

Bibliography

Barnett, R. D. & Watson, W. 1952: Russian Excavations in Armenia. *Iraq* 14, 132-147.

Barnett, R. D. 1959: Further Russian Excavations in Armenia (1949-1953). *Iraq* 21, 1-19.

⁹⁸ Zimansky 2012, 107-109.

- Bayern, F. 1885: *Untersuchungen über die ältesten Gräber und Schatzfunde in Kaukasien* (*Zeitschrift für Ethnologie, Supplement 17*) (Berlin).
- Belck, W. 1893: Archäologische Forschungen in Armenien. *Berl. Verh.*, 61-82.
- 1894: Archäologische Thätigkeit im Jahre 1893 in Transkaukasien. *Berl. Verh.*, 213-241.
- Belli, O. 1976-1977: Van Bolge Müzesindeki Çivi Yazılı Urartu Tunç Eserleri. *Anadolu Araştırmaları* 4-5, 177-212.
- Biscione, R. 1994: Recent Urartian Discoveries in Armenia: The Columbarium of Erevan. *SMEA* 34, 115-135.
- Bouzek, J. 1971: Openwork "Bird-Cage" Bronzes. In J. Boardman, M. A. Brown, T. G. E. Powell (eds.), *The European Community in Later Prehistory. Studies in honor of C. F. C. Hawkes* (London), 79-104.
- Chantre, E. 1886: *Recherches anthropologiques dans le Caucase*. Tome II (Paris – Lyon).
- Contenau, G. & Ghirshman, R. 1935: *Fouilles du Tépé-Giyan, près de Néhavend, 1931 et 1932* (Paris).
- Engel, C. 1864: *The Music of the Most Ancient Nations – Particularly of the Assyrians, Egyptians and Hebrews, With Special Reference to Recent Discoveries in Western Asia and in Egypt* (London).
- Galanina, L. K. 1997: *Die Kurgane von Kelermes. "Königsgräber" der frühskythischen Zeit (Steppenvölker Eurasien, 1)* (Moskau).
- Ghirshman, R. 1939: *Fouilles de Sialk: pres de Kashan*. Vol. II (Paris).
- 1979: *Tombe princière de Ziwiyé et le début de l'art animalier scythe* (Paris).
- Haerincq, E. & Overlaet, B. 1998: *Chamahzi Mumah. An Iron Age III Graveyard (Luristan Excavation Documents II)* (Leuven).
- 1999: *Djub-i Gauhar and Gul Khanan Murdah. Iron Age III Graveyards – Aivan Plain (Luristan Excavation Documents III)* (Leuven).
- 2004: *The Iron Age III Graveyard at War Kabud, Pusht-i Kuh, Luristan (Luristan Excavation Documents V)* (Leuven).
- Hummel, J. 1933: Zur Archäologie Azerbeidžans. *ESA* 8, 211-234.
- Kozenkova, V. I. 1992: *Seržen'-Jurt* (Mainz am Rhein).
- Kroll, S. 1979: Die Kleinfunde. In W. Kleiss (ed.), *Bastam I. Ausgrabungen in den Urartäischen Anlagen 1972-1975* (Berlin), 151-182.
- Layard, A. H. 1853: *Discoveries among the Ruins of Nineveh and Babylon with Travels in Armenia, Kurdistan and the Desert* (New York).
- de Morgan, J. 1889: *Mission scientifique au Caucase: études archéologiques et historiques* (Paris).
- 1896: *La Mission scientifique en Perse. Recherches archéologiques*. Tome quatrième (Paris).
- 1905a: Découverte d'une sépulture Achéménide a Suse. *Mémoires de la délégation en Perse (Recherches Archéologiques 8)*, 29-58.

- 1905b: Recherches au Talyche Persan en 1901. *Mémoires de la délégation en Perse* (*Recherches Archéologiques* 8), 251-342.
- Muscarella, O. W. 1978: Urartian Bells and Samos. *Journal of the Ancient Near East Society of Columbia University* 10, 61-72.
- 1988: *Bronze and Iron. Ancient Near Eastern Artifacts in the Metropolitan Museum of Art* (New York).
- Nagel, W. & Strommenger, E. 1985: *Kalakent. Früheisenzeitliche Grabfunde aus dem Transkaukasischen Gebiet von Kirovabad/Jelisavetopol* (Berlin).
- Negahban, E. 1996: *Mārlik. The Complete Excavation Report*. Vols. I-II (Philadelphia).
- Overlaet, B. J. 2003: *The Early Iron Age in the Pusht-i Kuh, Luristan* (*Luristan Excavation Documents* IV) (Leuven).
- Piotrovskij, B. B. 1966: *Il regno di Van (Urartu)* (Rome).
- Pizchelauri, K. N. 1984: *Jungbronzezeitliche bis ältereisenzeitliche Heiligtümer in Ost-Georgien* (Munich).
- Rösler, E. 1896: Neue Ausgrabungen bei Gülaplu, Transkaukasien. *Berl. Verh.*, 398-402.
- 1902: Archäologische Forschungen und Ausgrabungen in Transkaukasien, unternommen für die Kaiserliche Russische Archäologische Commission im Jahre 1900 – Fortsetzung der archäologischen Ausgrabungen bei der Colonie Helenendorf, Kreis und Gouvernement Elisabethpol, im Jahre 1900. *Berl. Verh.*, 137-194.
- Seidl, U. 1991: Horse Trappings. In R. Merhav (ed.), *Urartu. A Metalworking Center in the First Millennium ECB* (Jerusalem), 78-95.
- 2004: *Bronzekunst Urartus* (Mainz am Rhein).
- Sono, F. & Fukai, S. 1968: *Dailaman III. The Excavations at Hassani Mahale and Ghalekuti 1964* (Tokyo).
- Tallgren, A. M. 1930: Caucasian Monuments: the Kazbek Treasure. *ESA* 5, 109-182.
- Thrane, H. 2001: *Excavations at Tepe Guran in Luristan* (Højbjerg).
- Vanden Berghe, L. 1964: *La Nécropole de Khürvîn* (Istanbul).
- Winter, J. I. 1980: *A Decorated Breastplate from Hasanlu, Iran. Type, Style, and Context of an Equestrian Ornament* (Philadelphia).
- Xnkikyan, O. 2002: *Syunik During the Bronze and Iron Ages* (Barrington).
- Zimansky, P. 2012: As Urartu Empire. Cultural Integration in the Kingdom of Van. In S. Kroll, C. Gruber, U. Hellwag, M. Roaf, P. Zimansky (eds.), *Biainili-Urartu. The Proceedings of the Symposium Held in Munich 12-14 October 2007* (*Acta Iranica* 51) (Leuven), 101-110.
- Арешян, Г. Е. 1970: Материалы из раскопок Кармирбердского (Тазакендского) могильника в музее Грузии. *Вестник Ереванского университета* 1/10, 239-247.
- Асланов, Г. М., Вайдов, Р. М., Ионе, Г. И. 1959: *Древний Мингечаур (эпоха неолита и бронзы)* (Баку).

- Гамбашидзе, О. С., Квижинадзе, К. Д., Абрамишвили, М. Р. 1985: Отчет о работе Месхет-Джавахетской экспедиции. *Полевые археологические исследования в 1982 году*, 31-36.
- Деведжян, С. Г. 1981: *Лори-Берд I. Результаты раскопок 1969-1973 гг.* (Ереван).
- Есаян, С. А. 1976: *Древняя культура племен северо-восточной Армении (III-I тыс. до н.э.)* (Ереван).
- Есаян, С. А. & Калантарян, А. А. 1988: *Ошакан I. Основные результаты раскопок 1971-1883 гг.* (Ереван).
- Есаян, С. А., Биггов, Л. Н., Амаякян, С. Г., Канецян, А. Г. 1991: *Биайнская гробница в Ереване* (Ереван).
- 1995: *Биайнская гробница в Ереване (2)* (Ереван).
- Ивановский, А. А. 1911: *По Закавказью* (Москва).
- Казиев, С. М. 1960: *Альбом кувшинных погребений* (Баку).
- Каландадзе, А. Н. 1982: *Самтавро. Археологические памятники доантичной эпохи (Михета. Результаты археологических исследований VI)* (Тбилиси).
- Хахиани, К. К., Иремашвили, Ш. А., Иорданишвили, Ж. В., Цквитинидзе, З. Р. 1985: *Археологическая экспедиция Машаверского ущелья. Полевые археологические исследования в 1982 году*, 29-31.
- Козенкова, В. И. 1998: *Материальная основа быта кобанских племен. Западный вариант* (Москва).
- Мартirosян, А. А. 1954: *Раскопки в Головино* (Ереван).
- 1956: *Раскопки в Кировакане и некоторые памятники раннеурартского периода. Известия академии наук Армянской ССР* 9, 61-83.
- 1964: *Армения в эпоху бронзы и раннего железа* (Ереван).
- Микеладзе, Т. К., Мигдисова, Н. П., Папуашвили, Р. И. 1985: *Основные итоги полевых исследований колхидской экспедиции. Полевые археологические исследования в 1982 году*, 37-40.
- Пиотровский, Б. Б. 1950: *Кармир-Блур I. Результаты раскопок 1939-1949* (Ереван).
- 1952: *Кармир-Блур II. Результаты раскопок 1949-1950* (Ереван).
- 1955: *Кармир-Блур III. Результаты раскопок 1951-1953* (Ереван).
- 1956: *Клинообразные Урартские надписи из раскопок на Кармир-блуре 1954 г. Эпиграфика Востока* 11, 80-82.
- 1960: *Урартские надписи из раскопок Кармир-блур 1939-1958 гг. Эпиграфика Востока* 13, 105-109.
- 2011: *История и культура Урарту* (Санкт-Петербург).
- Садыкзаде, Ш. Г. 1971: *Древние украшения Азербайджана* (Баку).
- Техов, Б. В. 1980: *Тлийский могильник (комплексы XVI-X вв. до н.э.)* (Тбилиси).
- 1981: *Тлийский могильник (комплексы IX – первой половины VII вв. до н.э.). Ч. II* (Тбилиси).

- 1985: *Тлийский могильник (комплексы второй половины VII–VI в. до н.э.). Ч. III (Тбилиси).*
- 2002: *Тайны древних погребений (Владикавказ).*
- Трапш, М. М. 1969: *Древний Сухуми (Сухуми).*
- Хачатрян, Т. С. 1979: *Артикский некрополь. Каталог (Ереван).*

Abbreviations

- Berl. Verh.* *Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte (Berlin).*
- CTU IV* Salvini, M. *Corpus dei Testi Urartei IV. Testi su bronzi, argilla, altri supporti. Nuove iscrizioni su pietra. Paleografia generale (Documenta Asiana 8) (Roma, 2012).*
- ESA* *Eurasia Septentrionalis Antiqua (Helsinki).*
- SMEA* *Studi Micenei ed Egeo-Anatolici (Rome).*

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